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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/746,174	12/21/2000	Christopher S. MacLellan	EMC2-085PUS	2915
22494	7590	01/15/2004		
DALY, CROWLEY & MOFFORD, LLP SUITE 101 275 TURNPIKE STREET CANTON, MA 02021-2310				
EXAMINER BAKER, STEPHEN M				
ART UNIT		PAPER NUMBER		
2133		8		

DATE MAILED: 01/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/746,174

Applicant(s)

MACLELLAN, CHRISTOPHER S.

Examiner

Stephen M. Baker

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2,4 and 7 is/are allowed.
- 6) ☒ Claim(s) 1 and 3 is/are rejected.
- 7) ☒ Claim(s) 5 and 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

In the preliminary amendment, all references to "p" as the parity of data (this does not apply to the parity of CRC, however, which should remain "p") apparently should be changed to "P".

On page 4, in line 17, "p" apparently should be "P", for consistency with "P(0), P(1), etc, and to avoid confusion with applicant's designation of CRC parity as "p".

On page 38, in lines 15, 16, 19 and 23, "p" apparently should be "P"; in line 25, "[p(0), p(1), ... p(N-1)]" apparently should be "[P(0), P(1), ... P(N-1)]", for consistency with the terminology of the claims.

Appropriate correction is required.

Claim Objections

2. Claims 5 and 6 are objected to because of the following informalities: as previously noted, "Cycle Redundancy Check" should be "Cyclic Redundancy Check". Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 3, line 3, "bits" (as spontaneously amended from "bit") apparently should be "bit".

Claim Rejections - 35 USC § 102

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,125,466 to Close et al (hereafter Close).

Reference is hereby made to the rejection citing Close, made in the previous Office action. Claim 1 does not specify actually calculating the parity of the LRCC type of CRC used by Close, and Close's LRCC, as with any data block, inherently possesses a parity, whether or not it is calculated.

7. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,599,722 to Mortimer (hereafter Mortimer).

Mortimer discloses a 2-dimensional coding arrangement where every 7-bit byte (referred to by Mortimer as a "packet") is provided with a parity bit, and an error-detecting redundancy byte ^{added} is to a block of such bytes to complete the 2-dimensional code. Mortimer's redundancy byte" is recognized here as a Red-Solomon error

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detecting code with a single-root generator polynomial of $(x - \alpha)$, and thus provides a form of CRC.

8. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by the published article "Error Correction Capabilities of Binary Mapped Reed-Solomon Codes with Parity Bits Appended to all Symbols" by Hsu *et al.* (hereafter Hsu).

Hsu discloses adding a parity bit to each symbol of a (N, K, d) Reed-Solomon codeword, including adding a parity bit to each of the check symbols. Reed-Solomon codes are a type of CRC and, as such, parity of the parity bits over the data symbols would be the parity of a Reed-Solomon check symbol, given a Reed-Solomon code with a value for $N - K$ equal to 1.

Allowable Subject Matter

9. Claims 2, 4 and 7 are allowed.

10. Claim 3 would be allowable if rewritten to overcome the rejection under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

11. Applicant's argument regarding Close's lack of calculation of the parity of the LRCC (a form of CRC), see paper #7, filed 27 October 2003, with respect to the rejection of claims 2-5 under 35 USC 102 have been fully considered and are

persuasive. The prior art of record previously cited, but not applied (see ref. "U" to Ramabadran et al.) clearly explains that LRCC is a form of CRC.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. Baker whose telephone number is (703) 305-9681. The examiner can normally be reached on Monday-Friday (11:00 AM - 7:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on (703) 305-9595. The fax phone number for the organization where this application or proceeding is assigned is (703) 746-7239.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3800.



Stephen M. Baker
Primary Examiner
Art Unit 2133

smb